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09/729,646	12/04/2000	Kenneth Smith	AMAZON.060A	3059

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EXAMINER	
VO, HUYEN X	

ART UNIT	PAPER NUMBER
2655	13

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/729,646	SMITH, KENNETH	
	Examiner	Art Unit	
	Huyen Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *3/8/2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/8/2004 have been fully considered but they are not persuasive.

As per claims 1 and 9, the applicant argues to traverse the art rejection based on the limitations "*nothing in Bennett et al. describes how the grammars are actually generated" and "incorporating utterances into a speech recognition grammar" (amendment page 8), "storing at least some of the utterances of the set ... within a voice recognition grammar used to interpret the voice-based search query", and "translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered combinations of two or more consecutive terms of the phrase" (amendment page 9).* However, claims 1 and 9 do not specifically claim a method for generating grammar. In addition, Bennett et al. disclose a method using grammar and dictionary files to recognize input speech (col. 27, ln. 17-67, the grammar and dictionary files must initially be constructed through the training process. The training utterances must have been incorporated into the grammar files and stored in the system during the training process to generate large, reliable grammar files for use in the present system). Furthermore, Akers et al. teach a method for breaking up phrases into individual words and sub-phrases in a forward combinations fashion (col. 6, ln. 56-62, *the term "include" in line 60 indicates that the phrase "the man is happy" would include all ordered combinations*).

As per claim 16, the applicant argues to traverse the art rejection based on the limitation *"a grammar which specifies to the speech recognition system valid utterances for interpreting the voice search queries, wherein the grammar comprises both single-term and multi-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items," (amendment page 10).* However, Akers et al. teach a process of breaking up phrases into individual words and sub-phrases in a forward combination fashion (col. 6, ln. 56-62). Since Akers et al. is relied upon for the teaching of breaking up phrases into individual words and sub-phrases in a forward combination fashion, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Bennett et al. by incorporating the teaching of Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

2. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

3. Based on the amendment to the specification, claims, and drawings, the objection directed towards minor informality has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-11 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967)

1. Referring to claim 9, Bennett et al. discloses a method of enabling an item to be located by a voice-based search query (col.11, ln. 9-11), the method comprising:

extracting a phrase from text of the item (col. 11, ln. 13-17, the word "answer" could be considered a phrase); and

storing at least some of the utterances of the set within a voice recognition grammar used to interpret the voice–based search query (col. 27, ln. 33-36);

Bennett et al. fails to specifically disclose a method for translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered combinations of two or more consecutive terms of the phrase. However, Akers et al. teaches a method for translating the phrase into a set of utterances consisting of (a) individual terms of the phrase and (b) all ordered combinations of two or more consecutive terms of the phrase (col. 6, ln. 56-62).

Since Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely speech recognition grammar construction, it would have been obvious to one of ordinary skill in art to modify Bennett et al. by employing a method for expanding phrases and forward combining of individual terms as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

2. Referring to claim 10, Bennett et al. further discloses a method wherein extracting phrases comprises extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16).

3. Referring to claim 11, the modified Bennett et al. fails to specifically disclose a method wherein storing at least some of the utterances comprises filtering out at least one utterance according to a set of heuristics, but Akers et al. further suggests excluding at least some of the phrases according to a set of heuristics (col. 6, ln. 61-62) and a storage for storing input 18 that is already processed by system 16 (figure 1).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely recognition grammar construction, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating a method for removing some of the utterances according to a set of heuristics as taught by Akers et al. in order to avoid recognition of unnecessary utterances to speed up the recognition process.

4. Referring to claim 15, the modified Bennett et al. discloses all the limitations of claim 15, but fails to specifically disclose a method wherein the phrase comprises at least three terms. However, Akers et al. teaches a method for wherein the phrase comprises at least three terms (col. 6, ln. 59-62).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by having the phrase comprises at least three terms as taught by Akers et al. in order to avoid a large number of forward combinations of terms to reduce processing time.

5. Referring to claim 16, Bennett et al. further discloses a system for conducting voice based searches within a domain of items (figure 1), comprising:

a voice recognition system that interprets voice search query from users (figures 11A, 11B, and 11C);

a grammar which specifies to the voice recognition system valid utterances for interpreting the voice search queries (col. 27, 33-34).

Bennett et al. fails to disclose a system wherein the grammar comprises both single-term and multiple-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items. However, Akera et al. further teaches a system comprises both single-term and multiple-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations (col. 6, ln. 56-62) derived from phrases within text of the items.

Since Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely voice-based search system, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating into the grammar both single-term and multiple-term utterances as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

6. Referring to claim 17, Bennett et al. discloses a process for extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16). The modified Bennett et al. in accordance with claim 16 above would obviously show the process for forward combining of individual terms of the title.

7. Referring to claim 18, Bennett et al. further discloses a system wherein the voice recognition system uses the grammar to interpret voice queries of title searches (figure 4A).

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Turtle (US. Patent No. 5,265,065), and further in view of Akers et al. (US. Patent No. 6,278,967).

8. Referring to claim 1, Bennett et al. discloses a method of specifying to a voice recognition system a set of valid utterances for interpreting voice-based queries for items within a domain of items (col. 27, ln. 31-35), the method comprising:

extracting phrases from at least some of the items within the domain (col. 11, ln. 13-17);

incorporating at least some of utterances into the voice recognition grammar (col. 27, ln. 33-36); and

providing the voice recognition grammar to the voice recognition system (col. 27, ln. 28-29).

Bennett et al. fails to specifically disclose a method for expanding each phrase into a set consisting of individual terms of the phrase, and forward combining of terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances. However, Turtle teaches a method for expanding each phrase into a set consisting of individual terms of the phrase (col. 8, ln. 41-42).

Since Bennett et al. and Turtle are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in art to modify Bennett et al. by employing a method for expanding phrases into individual terms as taught by Turtle in order for the system to forward combine individual terms to reduce recognition processing time.

The combination of Bennett et al. and Turtle still fails to specifically disclose a method for forward combining terms within the phrase. However, Akers et al. teaches a method for forward combining terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances (col. 6, ln. 56-62).

Since all three inventions are analogous art because they are from the same field of endeavors, namely speech recognition grammar construction, it would have been obvious to one of ordinary skill in art to further modify Bennett et al. by employing a method for expanding phrases and forward combining individual terms as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

9. Referring to claim 2, Bennett et al. further discloses a method wherein extracting phrases comprises extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16).

10. Referring to claim 3, the modified Bennett et al. discloses all the limitations of claim 3, but fails to specifically disclose a method for extracting phrases further comprises dividing a title having more than a predefined number of terms into multiple phrases. However, Akers et al. further teaches a method for dividing long title into multiple phrases (col. 6, ln. 56-59).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely voice-base search system, it would have been obvious to one of ordinary skill in art to further modify Bennett et al. by employing a method for dividing a long title into multiple phrases as taught by Akers et al. in order to avoid a large number of forward combinations of terms to reduce processing time.

11. Referring to claim 4, Bennett et al. further discloses a method further comprising using the voice recognition grammar and the voice recognition system to interpret voice-based query of a title search (figure 4A).

12. Referring to claim 5, Bennett et al. further discloses a method further comprising extracting individual terms from at least some of the items (col. 11, ln. 9-11), and incorporating at least some of the individual terms into the grammar (col. 27, ln. 33-34).

13. Referring to claim 6, the modified Bennett et al. discloses all the limitations of claim 6 in accordance with claim 1 above, but fails to disclose a method wherein incorporating at least some of the single-term and multiple-term utterances into the

voice recognition grammar comprises removing at least some of the utterances according to a set of heuristics. However, Akers et al. further suggests excluding at least some of the phrases according to a set of heuristics (col. 6, ln. 61-62) and a storage for storing input 18 that is already processed by system 16 (figure 1).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely recognition grammar construction, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating a method for excluding some of the utterances according to a set of heuristics as taught by Akers et al. in order to avoid recognition of unnecessary utterances to speed up the recognition process.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967) and further in view of Turtle (US. Patent No. 5,265,065).

14. Referring to claim 12, the modified Bennett et al. in accordance with claim 9 above fails to specifically disclose a method further comprising removing a duplicate phrase within the title prior to translation into the set of utterances. However, Turtle further teaches a method for removing duplicate phrase (col. 12, ln. 46-47).

Since the modified Bennett et al. and Turtle are analogous art because they are from the same field of endeavors, namely voice-based search system, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by

incorporating a method for removing a duplicate phrase as taught by Turtle in order to avoid a large number of forward combinations of terms to reduce processing time.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967), and further in view of Malsheen et al. (US. Patent No. 5,634,084)

15. Referring to claim 13, the combination of Bennett et al. and Akers et al. discloses all the limitations of claim 13 as mentioned in (5), but fails to specifically disclose a method further comprising converting a number within multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for converting numbers into word counterparts (col. 7, ln. 59-62).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for converting numbers into word counterparts as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

16. Referring to claim 14, the combination of Bennett et al. and Akers et al. discloses all the limitations of claim 14 as mentioned in (5), fails to specifically disclose a method further comprising expanding an acronym within a multiple-term utterance produced by

the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for expanding an acronym into word counterpart (col. 12, ln. 23-27).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for expanding an acronym into word counterpart as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Turtle (US. Patent No. 5,265,065), and further in view of Akers et al. (US. Patent No. 6,278,967), and further in view of Malsheen et al. (US. Patent No. 5,634,084).

17. Referring to claim 7, the combination of Bennett et al. Turtle, and Akers et al. discloses all the limitations of claim 7 as mentioned in (12), but fails to specifically disclose a method further comprising converting a number within multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for converting numbers into word counterparts (col. 7, ln. 59-62).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for converting numbers into word counterparts as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

18. Referring to claim 8, the combination of Bennett et al. Turtle, and Akers et al. discloses all the limitations of claim 8 as mentioned in (12), but fails to specifically disclose a method further comprising expanding an acronym within a multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for expanding an acronym into word counterpart (col. 12, ln. 23-27).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for expanding an acronym into word counterpart as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo

May 24, 2004

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